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# **ENVIRONMENTAL REVIEW CHECKLIST FOR IDENTIFYING POTENTIAL ENVIRONMENTAL IMPACTS OF PROJECT ACTIVITIES AND PROCESSES**

**for Heidelberg Cement Georgia CM3 Research and  
Renovation in Rustavi**

**Implemented under: Enhancing Capacity for Low  
Emission Development Strategies  
(EC-LEDS) Clean Energy Program**

**DCN: 2012-GEO-076**

**Prepared by: Winrock International-Georgia**

**Date: 26 April 2016**

## ENVIRONMENTAL REVIEW CHECKLIST FOR IDENTIFYING POTENTIAL ENVIRONMENTAL IMPACTS OF PROJECT ACTIVITIES AND PROCESSES

The Environmental Review Checklist for Identifying Potential Environmental Impacts of Project Activities and Processes (ERC) is intended for use mainly by implementing partners to: assess activity-specific baseline conditions, including applicable environmental requirements; identify potential adverse environmental effects associated with planned activity(s) and processes; and develop environmental mitigation and monitoring plans (EMMPs) that can effectively avoid or adequately minimize the identified effects. This ERC can also be substituted for other ERC versions that may have been attached to project initial environmental examinations (IEE). If implementing partners are in doubt about whether a planned activity requires preparation of an ERC, they should contact their Contracting Officer's Representative (COR)/Agreement Officer's Representative (AOR) for clarification. *(When preparing the checklist, please indicate "not applicable" for items that have no bearing on the activity.)*

### A. Activity and Site Information

<b>Project Name: <i>(as stated in the triggering IEE)</i></b>	EC-LEDS Clean Energy
<b>Mission/Country:</b>	Georgia
<b>DCN of Triggering IEE:</b>	2012-GEO-076
<b>Activity/Site Name:</b>	Heidelberg Cement Georgia CM3 Research and Renovation in Rustavi/ Rustavi city.
<b>Type of Activity:</b>	Small-scale construction/rehabilitation activities
<b>Name of Reviewer and Summary of Professional Qualifications:</b>	Environmental Specialist at Winrock International-Georgia MSc in Environmental Science from Lund University, Sweden. More than 7 years of professional activities at different USAID funded projects in Georgia as Environmental Compliance Specialist. Participated in the training seminar "Introduction to the USAID Environmental procedures and Introductory Environmental Review, Screening, Mitigation and Monitoring. USAID Bureau for Europe and Eurasia. June 22-24, 2005. Participated in training seminar "USAID/AgVANTAGE Training on Integrated Pest and Pesticide Management and Environmental Compliance". 18-19 July, 2006 Tbilisi, Georgia.
<b>Date of Review:</b>	26 April 2016

## **B. Activity Description**

### **1. Activity purpose and need**

The purpose of the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) Clean Energy Program, funded by USAID/Caucasus, is to support Georgia's efforts to increase climate change mitigation through energy efficiency and clean energy. The broader goal is to enable more responsible management and development of Georgia's natural endowments. To achieve this goal, the required outcomes of the program are captured in following program objectives:

- (1) Support Georgian municipalities in institutionalizing and implementing climate change mitigation measures;
- (2) Promote and facilitate private-sector investments in energy efficiency and green buildings;
- (3) Build the capacity of the Government of Georgia (GoG) to develop and implement a national Low Emissions Development Strategy in support of the USG EC-LEDS initiative.

The EC-LEDS Clean Energy Program is comprised of three components:

- 1) Georgian Municipal Energy Efficiency, which will support at least 10 municipalities in quantifying and reducing GHG emissions, and institutionalizing climate change mitigation;
- 2) Green Building Rating and Certifying System, which will introduce a voluntary system for rating and certifying green buildings in Georgia and build market demand for certified buildings; and
- 3) National EC-LEDS Working Group and Advisory Assistance, which would provide advisory assistance to the GoG to articulate concrete actions, policies, programs and implementation plans under the bilateral EC-LEDS initiative.

Georgia's Second National Communication (SNC) to the UN Framework Convention on Climate Change (UNFCCC) forecasts that emission from Georgia's energy sector will increase by 24% between 2006 and 2025, going in parallel with growing energy demands of the expanding industry, transport and residential sectors. Projected accelerated growth of greenhouse gas (GHG) emissions, corresponding to the absence of institutional capacity and policies that promote energy efficiency and conservation, represent critical factors contributing the expecting increase in emissions. Inefficient energy use on one hand leads to greater GHG emissions and air pollution, affecting both human and the environment, and on the other hand, hinders Georgia's ability to compete in regional and global markets.

During the five years of the program, the EC-LEDS Clean Energy Program is expected to reduce GHG emissions in Georgia by at least 235,000 metric tons of CO<sub>2</sub> equivalent, facilitate up to \$14 million in private sector investments in clean energy, and lead to energy savings of up to 315 GWh equivalent (the equivalent of approximately \$22 million).

### **2. Location of activity**

"Heidelberg -Georgia Rustavi Cement Plant" Ltd., 70 Mshenebelta str. Rustavi city, Georgia.

### **3. Beneficiaries, e.g., size of community, number of school children, etc.**

Planned positive outcomes of the current energy efficiency improvement project will affect the different population groups residing near cement plant ("Heidelberg -Georgia Rustavi Cement Plant" Ltd). Anyone who works in and lives near cement plant can be considered as beneficiaries of this project since it will better the working conditions and improve the ambient environment around the cement plant. Another beneficiary of the project is the partner company- Heidelberg Cement Georgia, which, by implementing this project, will be able to cut its electricity costs and channel the surplus

funds into renovation and modernization of the rest of the machinery and equipment, making it a safer, cleaner and more energy efficient facility.

4. Number of employees and annual revenue, if this is a business

At the moment, approximately 260 employees are working at the cement plant. Average annual production capacity of the plant is 500,000 tons of cement and 262,000 tons of clinker.

5. Implementation timeframe and schedule

Implementation of the current project is planned during 2<sup>nd</sup> - 3<sup>rd</sup> quarters of 2016.

6. Detailed description of activity and site, e.g., size of the facility or hectares of land; steps that will be taken to accomplish the activity

Rustavi is one of the industrially developed cities of Georgia, with a self-governing status. Its population amounts to 122, 500 (1637 families), including internally displaced people, and features the tendency of slow increase, mainly at the expenses of natural increase and migration from neighboring villages and Tbilisi-city. Self-governing city of Rustavi signed the Covenant of Mayors on May 02, 2011 and committed itself to reduce greenhouse gas emission no less than by 20% below the baseline year 2020.

After 2004, in the course of rapid economic development of the country, the infrastructure of the Rustavi city, as well as social service has been revived. Number of industrial, cultural, educational, sports and public institutions was increased and their quality improved. Typical urban character of the city determines the high rate of energy consumption for continuous operation of lighting, heating, transport, industrial and non-industrial institutions. Enterprises existing within Rustavi area, among which there are some giants – Metallurgical Plant, Heidelberg Cement Plant, Rustavi Nitrogen Plant, Geo Steel plant, however, do not operate with full capacity as a result of long suspension caused by the crisis of 90-ies and stagnation period. Their majority requires re-equipment and reconstruction for providing full capacity. Industrial enterprises are privatized and are not subject to municipal management, however they still representing a significant priority direction for city's development process under the scope of consideration of energy efficiency and introduction of renewable energy sources. Rapid development path in Rustavi showed actuality of sustainable and environmental issues, causing need of their consideration in city's development process and need of proper balance between economic, social and environmental fields.

"HeidelbergCement Georgia" is a leading brand at the Georgian cement market and is represented by two cement production companies: HeidelbergCement Georgia (former SaqCementi) and Kartuli Cementi. Plants total production capacity reaches 2 million tons of cement per year. "Heidelberg - Georgia Rustavi cement plant" is one of the biggest cement producer among the "HeidelbergCement Georgia" group. Back to the history of the plant, works of cement plant construction began in 1952. The first output was attained in 1956 and corresponding to that period, average annual production capacity was 308.000 tons of cement and 616.000 tons of clinker. In 1994, the plant was privatized and named "JSC Rustavcementi". In February 2007, JSC "Rustavcementi Ltd." entered the HeidelbergCement Group. HeidelbergCement started large investments aiming at technological revamping and capital repairs. As a member of the HeidelbergCement group, "Heidelberg -Georgia Rustavi cement plant" is moving towards meeting European standards in the field of management and production activities.

Proposed rehabilitation project envisages renovation of "Heidelberg -Georgia Rustavi Cement Plant's Cement Grinding Ball Mill #3 (CM3). Cement grinding is a key final process in the cement production, and is used to grind the hard, nodular clinker from the cement kiln into the fine grey powder that is cement. Generally, the cement manufacturing process consists of raw material grinding, blending, pre-calcining, clinker burning and cement grinding. In short, limestone and other materials containing

calcium, silicon, aluminum and iron oxides are crushed and ground into a raw meal. This raw meal is blended and then heated in the pre-heating system (cyclones) to start the dissociation of calcium carbonate to oxide. The meal goes further into the kiln for heating and reaction between calcium oxide and other elements to form calcium silicates and aluminates at a temperature up to 1450 Celsius degree: so called clinker burning. The cyclone system is attached to the rotary kiln by a riser duct. Secondary fuel is fed to the riser duct, the main fuel mixture, coal/petcoke, fires the kiln. Reaction products leave the kiln as a nodular material called clinker. The clinker will be underground with gypsum and other materials to cement.

Implementation of the presented project will ensure upgrade of the Cement Grinding Ball Mill #3 (one of 6 existing grinding ball mills at the plant) into modern, energy efficient and environmentally friendly machinery. Currently, old Russian design CM #3 operates as an open circuit mill. Process control instruments (sensors) installed on CM3 are out of order, due to the age. Accuracy deviation of the Ukrainian design weigh feeders that feed to CM3 by raw material is far from the standards. Cement transport vessel, installed on CM3 operates based on the time relay, which is not efficient and causes compressed air losses. Existing mill bag filter fan is not equipped with variable speed device, which fact causes huge electricity losses. Main 6 kV motor of the CM3 has a very limited lifetime, as the insulations of the sections are obsolete.

The rehabilitation project implies the following technical activities in order to increase efficiency of the CM3 operation, thus reducing power consumption and emissions:

1. Level and pressure sensors will be installed on cement vessel to control dispatch of cement to the silo according to pressure and level.
2. Process instruments (sensors) for precise control of pressure, temperature, and level will be installed on CM3 to ensure smooth operation of CM3.
3. Speed control device [FC] will be installed on ID fan motor to reduce power consumption and protect the motor.
4. New weigh feeders from Auger Process will be installed on CM3 and they will be connected to the existing process control system.
5. Electrical wiring (incl. cables and cable trays) will be totally upgraded.
6. Existing old electrical wiring sections of CM3 main motor will be replaced and brand new Frequency Invertors ABB-ACS 880 will be installed.
7. New design internals will be installed in first chamber of CM3.

In case of project successful implementation, forecasted reductions in emissions and power consumption will be as follows:

- Compressed air losses will be significantly reduced approximate (25-30%) by pressure and level monitoring system which corresponds to 50 kW/h electrical energy savings.
- Electrical power consumption will be reduced at least 10-15 % (5-10 kW/h saving) by installing variable speed device.
- Cement quality will be improved and CM throughput will be increased by ensuring continuous and precise feeding of raw material to the CM3.
- Reliability of CM3 operation will be increased and power losses will be reduced, by replacing of CM main drive.
- Throughput of CM3 will be increases at least 1 tone/hour by upgrading of mill first chamber, that automatically cause reduction electrical power consumption by 40kW/h.
- H&S environment will be considerably improved.

In case of project successful implementation, forecasted electrical power savings reach 805 MW.h annually, and coal savings reach 500 t of coal annually.

The total cost of the rehabilitation project is 346,725 USD, out of which 46,725 USD will be a share of USAID/“Winrock International-Georgia”.

Technically, project will be implemented through “Winrock International-Georgia”’s partner organization - “Georgian Energy-Resources Effectively Using Association” an official recipient of sub-grant.

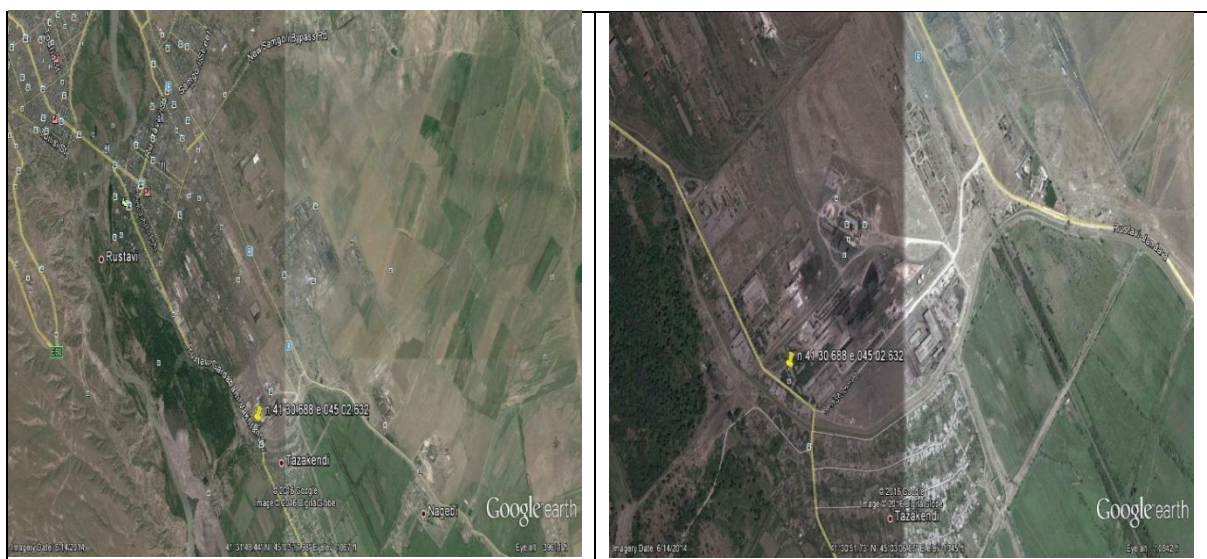
7. Existing or planned certifications, e.g., ISO 14001 EMS, ISO 9000, HCCP, SA 8000, Global Gap, Environmental Product Declarations, Eco Flower, EcoLogo, Cradle to Cradle, UL Environment, GREENGUARD, Fair Trade, Green Seal, LEED, or various Forest Certifications

After affiliation with HeidelbergCement Georgia group, “Heidelberg -Georgia Rustavi Cement Plant” is continuously improving standard in occupational Health & Safety. Special management systems for occupational health and safety is implemented at the facility in order to reduce the accident frequency rate.

Climate protection, reducing emissions and minimizing environmental impacts on the production sites are objectives of HeidelbergCement Georgia in the sphere of environmental protection. With that regard, more than 12 million Euro has been invested for a filter-changing project. The Filters Project started in December 2007 and completed by the end of 2008. By using modern technologies, the company will be able to reduce the adverse effects on people and the environment.

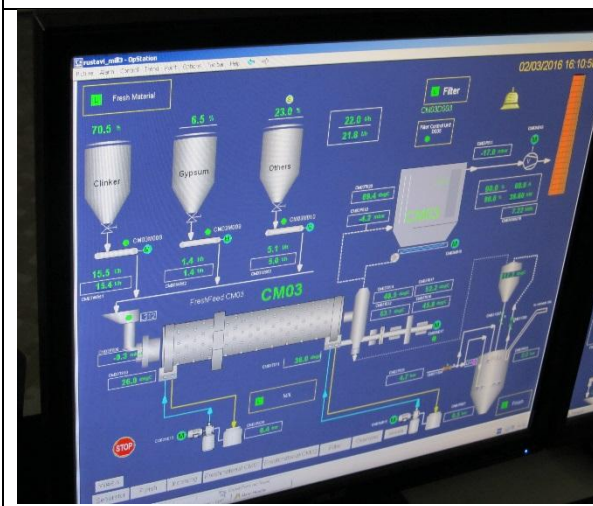
Modern “Siemens” Computer Process Management system has been introduced at the plant. The system allows automatically control main technological flow at the plant and monitor emissions parameters in connection with each technological stage.

8. Site map, e.g., provide an image from Google Earth of the location



Heidelberg Cement Georgia plant in Rustavi city (N 41°30. 688' E 045°02. 632'. Elev. - 319 m)

9. Photos of site (when available)





### C. Activity-Specific Baseline Environmental Conditions

1. Population characteristics
2. Geography
3. Natural resources, e.g., nearby forest/protected areas, ground and surface water resources
4. Current land use
5. Proximity to public facilities, e.g. schools, hospitals, etc.
6. Other relevant description of current environmental conditions in proximity to the activity

The city of Rustavi is located in Kvemo Kartli region of Georgia, 30 km away from Tbilisi. Rustavi is one of the powerful industrial centers of Georgia, in which significant parts of metallurgical, energy and chemical sectors of the country's economy are concentrated. Rustavi's population amounts to approximately 123,000 citizens. Geographically, Rustavi is located on Kvemo Kartli plain, on the both sides of the river Mtkvari, 370 meters above the sea level. The city is split in two parts by the river Mtkvari (Kura), the length of which (in Rustavi area) makes up 4 km. According to the climatic zoning, Rustavi is included in the moderately humid subtropical climatic zone. The average annual temperature is 12.7°C. The temperature of the coldest month (January) is +0.9°C and that of the hottest months (July-August) is +24.4°C, while the absolute maximum is +40°C. The soil freezing depth is 5 cm. The average annual precipitations is 505 mm. The rainiest months are May and June, with the average precipitation amount to 86 mm and 72 mm, respectively. Average annual humidity is 66%. According to the tectonic zoning of Georgia Rustavi area is included in the southern and Bolnisi sub-zones of the folded system of the Lesser Caucasioni. The geology of Rustavi is presented by drift deposits underlain by clays, conglomerates, marls, sandstones, lavas, extrusions and volcanic tuffs of basalts. From seismological point of view, Rustavi is located within the limits of Aspindza-Tbilisi morphostructural unit, which on its part is complicated by tectonic faults crossing one another. The zone is located within the seismicity risk area.

### D. Legal, Regulatory, and Permitting Requirements

1. National environmental impact assessment requirements for this activity

According to the Law of Georgia on Environmental Impact Permit, no Environmental Impact permit is required to obtain under implied actions of current rehabilitation project.

2. Applicable National or local permits for this activity, responsible party, and schedule for obtaining them: According to Georgian Law on Licenses and Permits, and associated Georgian Government decree No. 57 on Issuance of Construction Permit and Construction Permitting Conditions (24.03.2009), with regard to planned project related rehabilitation activities, no construction permit is required to obtain.

Permit Type	Responsible party	Schedule
Zoning		
Building/Construction		
Source Material Extraction		
Waste Disposal	The implementing party has to apply to Rustavi municipal landfill operating company for disposal of construction waste (Hazardous and non-hazardous). Following the respective requirement and procedures, Rustavi municipal landfill operating company will define disposal area and after paying the taxes needed for the disposal, implementing party is eligible to dispose all generated waste to the identified landfill area according to the type and character of waste.	During the construction phase
Wastewater		
Storm Water Management		
Air Quality	The implementer and recipient parties are responsible for maintaining and control of air emissions norms and standards, as it is stipulated in the current permit issues by the MoE. It is necessary to continue to monitor main air quality parameters at the premises on territory of the factory and within 500 m radius outside the factory premises.	As per established procedures in accordance with the requirements stipulated by MoE
Water Use		
Historical or Cultural Preservation		
Wetlands or Water bodies		
Threatened or Endangered Species		
Other		

3. Additional National, European Union, or other international environmental laws, conventions, standards with which the activity might be required to comply

a. Air emission standards

The following air emissions related Georgian laws and regulations to be observed during the construction and operational phases:

Decree of the government of Georgia #408 from 31.12.2013 on “Technical Regulations for Calculation of Maximum Permissible Concentration of Pollutants in Atmospheric Air”;

Decree of the government of Georgia #42 from 6.01.2014 on “Technical Regulations for Inventory of Fixed Atmospheric air Pollution Sources”;

Decree of the government of Georgia #413 from 31.12.2013 on “Technical regulations for organization of self-monitoring and reporting of emissions from Fixed Atmospheric air Pollution Sources”;

Decree of the minister of Health and Social Protection of Georgia #297/N from 16.08.2001 on “Standards of Quality of the State of the Environment” – G) rules of “Atmospheric Air Sanitary Protection and Hygienic norms in Populated Areas”; G.A.) Hygienic Requirements of Atmospheric Air Protection – Sanitary Norms and Regulations (appendix 6);

The Convention on Long-Range Transboundary Air Pollution (CLRTAP).

b. Water discharge standards

c. Solid waste disposal or storage regulations

The following Georgian laws and regulations to be observed and followed by during collection, storage and disposal of the construction waste:

Waste management Code of Georgia (26.10.2014);

Decree of the Government of Georgia #421 from 11.08.2015 on “Technical Regulations on Arrangement, Operation and Commissioning of waste landfills”;

Decree of the Government of Georgia #426 from 17.08.2015 on “Stipulation and Classification of Waste List According to Types and Characteristics”.

d. Hazardous waste storage and disposal

The following Georgian laws and regulations to be observed and followed by during collection, storage and disposal of hazardous construction waste:

Waste management Code of Georgia (26.10.2014);

Decree of the Government of Georgia #421 from 11.08.2015 on “Technical Regulations on Arrangement, Operation and Commissioning of Waste Landfills”;

Decree of the Government of Georgia #426 from 17.08.2015 on “Stipulation and Classification of waste list according to Types and Characteristics”.

e. Historical or cultural preservation

f. Other

According to Georgian legislation, during construction and rehabilitation activities, following construction norms and standards must be considered: СНиП 2.04.05-86 – Heating, Ventilation and Air conditioning, СНиП II-12-77- Acoustic Protection, СНиП III-4-80\*-Safety Engineering, Electrical System Installation Norms-ПУЭ, ВСН 59-88.

**E. Engineering Safety and Integrity** (for Sections E. and F., provide a discussion for any of the listed issues that are likely to have bearing on this activity)

1. Will the activity be required to adhere to formal engineering designs/plans? Have these been or will they be developed by a qualified engineer? Yes
2. Do designs/plans effectively and comprehensively address:
  - a. Management of storm water runoff and its effects? Yes
  - b. Reuse, recycling, and disposal of construction debris and by-products? Yes
  - c. Energy efficiency and/or preference for renewable energy sources? Yes
  - d. Pollution prevention and cleaner production measures? Yes

- e. Maximum reliance on green building or green land-use approaches?Yes
- f. Emergency response planning?Yes
- g. Mitigation or avoidance of occupational safety and health hazards?Yes
- h. Environmental management of mobilization and de-mobilization?Yes
- i. Capacity of the host country recipient organization to sustain the environmental management aspects of the activity after closure and handover?Yes
- 3. Are there known geological hazards, e.g., faults, landslides, or unstable soil structure, which could affect the activity? If so, how will the project ensure structural integrity?No
- 4. Will the site require grading, trenching, or excavation? Will the activity generate borrow pits? If so, how will these be managed during implementation and closure?No
- 5. Will the activity cause interference with the current drainage systems or conditions? Will it increase the risk of flooding?No
- 6. Will the activity interfere with above- or below-ground utility transmission lines, e.g., communications, water, sewer, or natural gas?No
- 7. Will the activity potentially interfere with vehicle or pedestrian traffic?No
- 8. Does the activity increase the risk of fire, explosion, or hazardous chemical releases?No
- 9. Does the activity require disposal or retrofitting of polychlorinated biphenyl-containing equipment, e.g., transformers or florescent light ballasts?No

## **F. Environment, Health, and Safety Consequences**

### **1. Potential impacts to public health and well-being**

- a. Will the activity require temporary or permanent property land taking?No
- b. Will activities require temporary or permanent human resettlement?No
- c. Will area residents and/or workers be exposed to pesticides, fertilizer, or other toxic substances, e.g., as a result of farming or manufacturing?No If so, how will the project:
  - i. Ensure that these chemicals do not contaminate ground or surface water?
  - ii. Ensure that workers use protective clothing and equipment to prevent exposure?
  - iii. Control releases of these substances to air, water, and land?
  - iv. Restrict access to the site to reduce the potential for human exposure?
- d. Will the activity generate pesticide, chemical, or industrial wastes? Could these wastes potentially contaminate soil, groundwater or surface water?No
- e. Will chemical containers be stored at the site?No
- f. Does the activity remove asbestos-containing materials or use of building materials that may contain asbestos, formaldehyde, or other toxic materials? Can the project certify that building materials are non-toxic? If so, how will these wastes be disposed of?No
- g. Will the activity generate other solid or hazardous wastes such as construction debris, dry or wet cell batteries, florescent tubes, aerosol cans, paint, solvents, etc.? If so, how will this waste be disposed of?No
- h. Will the activity generate nontoxic, nonhazardous solid wastes (subsequently requiring land resources for disposal)?No
- i. Will the activity pose the need to handle and dispose of medical wastes? If so, describe measures of ensuring occupational and public health and safety, both onsite and offsite.No
- j. Does the activity provide a new source of drinking water for a community? If so, how will the project monitor water quality in accordance with health standards?No
- k. Will the activity potentially disturb soil contaminated with toxic or hazardous materials?NO
- l. Will activities, e.g., construction, refurbishment, demolition, or blasting, result in increased noise or light pollution, which could adversely affect the natural or human environment?No

### **2. Atmospheric and air quality impacts**

- a. Will the activity result in increased emission of air pollutants from a vent or as fugitive releases, e.g., soot, sulfur dioxide, oxides of nitrogen, volatile organic compounds, methane.NO However,

routine monitoring of plant's basic air emission parameters (NO<sub>x</sub>, Co, SO<sub>2</sub>) to be continued as per established procedures.

- b. Will the activity involve burning of wood or biomass?No
- c. Will the activity install, operate, maintain, or decommission systems containing ozone depleting substances, e.g., Freon or other refrigerants?NO
- d. Will the activity generate an increase in carbon emissions?No
- e. Will the activity increase odor and/or noise?No

**3. Water quality changes and impacts**

- a. How far is the site located from the nearest river, stream, or lake? There is an irrigation channel flowing 150 m away from the plant premises.
- b. Will the activity disturb wetland, lacustrine, or riparian areas?No
- c. What is the depth to groundwater at the site?20-40m
- d. Will the activity result in increased ground or surface water extraction? If so, what are the volumes? Permit requirements?NO
- e. Will the activity discharge domestic or industrial sewage to surface, ground water, or publicly-owned treatment facility?No
- f. Does the activity result in increased volumes of storm water run-off and/or is there potential for discharges of potentially contaminated (including suspended solids) storm water?No
- g. Will the activity result in the runoff of pesticides, fertilizers, or toxic chemicals into surface water or groundwater?No
- h. Will the activity result in discharge of livestock wastes such as manure or blood into surface water?No
- i. Does the site require excavation, placing of fill, or substrate removal (e.g., gravel) from a river, stream or lake?NO

**4. Land use changes and impacts**

- a. Will the activity convert fallow land to agricultural land?No
- b. Will the activity convert forest land to agricultural land?No
- c. Will the activity convert agricultural land to commercial, industrial, or residential uses?No
- d. Will the activity require onsite storage of liquid fuels or hazardous materials in bulk quantities?No
- e. Will the activity result in natural resource extraction, e.g., granite, limestone, coal, lignite, oil, or gas?No
- f. Will the activity alter the viewshed of area residents or others?No

**5. Impacts to forestry, biodiversity, protected areas and endangered species**

- a. Is the site located adjacent to a protected area, national park, nature preserve, or wildlife refuge?NO
- b. Is the site located in or near threatened or endangered (T&E) species habitat? Is there a plan for identifying T&E species during activity implementation? If T&E species are identified during implementation, is there a formal process for halting work, avoiding impacts, and notifying authorities?No
- c. Is the site located in a migratory bird flight or other animal migratory pathway?No
- d. Will the activity involve harvesting of non-timber forest products, e.g., mushrooms, medicinal and aromatic plants (MAPs), herbs, or woody debris?No
- e. Will the activity involve tree removal or logging? If so, please describe.No

**6. Historic or cultural resources**

- a. Are there cultural or historic sites located at or near the site? If so, what is the distance from these? What is the plan for avoiding disturbance or notifying authorities?No
- b. Are there unique ethnic or traditional cultures or values present in the site? If so, what is the applicable preservation plan?No

**G. Further Analysis of Recommended Actions** (if the applicable IEE requires the use of ERCs to perform further analysis of recommended actions, then check the appropriate box below. If this analysis is not required, then skip this and proceed with Section H. If required by the IEE, the ERC shall be copied to the Bureau Environmental Officer (BEO)).

☐ **1. Categorical Exclusion:** The activity is not likely to have an effect on the natural or physical environment. No further environmental review is required. \*

☒ **2. Negative Determination with Conditions:** The activity does not have potentially significant adverse environmental, health, or safety effects, but may contribute to minor impacts that can be eliminated or adequately minimized by appropriate mitigation measures. EMMPs shall be developed, approved by the Mission Environmental Officer (MEO) (and the BEO if required by the IEE) prior to beginning the activity, incorporated into workplans, and then implemented. See Sections H and I below. \*

☐ **3. Positive Determination:** The activity has potentially significant adverse environmental effects and requires further analysis of alternatives, solicitation of stakeholder input, and incorporation of environmental considerations into activity design. A Scoping Statement must be prepared and be submitted to the BEO for approval. Following BEO approval an Environmental Assessment (EA) will be conducted. The activity may not be implemented until the BEO clears the final EA. For activities related to the procurement, use, or training related to pesticides, a PERUSAP will be prepared for BEO approval.

☐ **4. Activity Cancellation:** The activity poses significant and unmitigable adverse environmental effects. Adequate EMMPs cannot be developed to eliminate these effects and alternatives are not feasible. The project is not recommended for funding.

**\*Note regarding applicability related to Pesticides (216.2(e):** The exemptions of §216.2(b) (I) and the categorical exclusions of §216.2(c) (2) **such as technical assistance, education, and training** are not applicable to assistance for the procurement or use of pesticides.

**H. EMMPs** (Using the format provided below, or its equivalent, list the processes that comprise the activity, then for each, identify impacts requiring further consideration, and for each impact describe the mitigation and monitoring measures that will be implemented to avoid or adequately minimize the impacts. All environment, health, and safety impacts requiring further consideration, which were identified in Section F., should be addressed)

**1. Activity-specific environmental mitigation plan** (Upon request, the MEO may be able to provide your project with example EMMPs that are specific to your activity.)

Processes	Identified Environmental Impacts	Do the Impacts Require Further Consideration?	Mitigation Measures	Monitoring Indicators
List all the processes that comprise the activity(s) (e.g. asbestos roof removal, installation of toilets, remove and replace flooring) A line should be	A single process may have several potential impacts—provide a separate line for each.	For each impact, indicate <b>Yes</b> or <b>No</b> ; if <b>No</b> , provide justification, e.g.,: (1) There are no applicable legal requirements including permits or reporting and (2) There is no relevant community	For each impact requiring further consideration, describe the mitigation measures that will avoid or adequately minimize the impact. (If mitigation	Specify indicators to (1) determine if mitigation is in place and (2) successful. For example, visual inspections for seepage around pit latrine; sedimentation at stream crossings,

<i>included for each process.</i>		<i>concern and (3) Pollution prevention is not feasible or practical and (4) Does not pose a risk because of low severity, frequency, or duration</i>	<i>measures are well-specified in the IEE, quote directly from IEE.)</i>	<i>etc.)</i>
Rehabilitation of 6 kilovolt CM3 main electric motor (replacement of old electrical wiring sections and installation of new frequency invertors)	<p>Technical liquids (oil, lubricating grease) from the main electric motor might cause pollution of the adjacent territory in case of accidental spill.</p> <p>Rehabilitation activities will generate accumulation of minimal amount of construction and hazardous waste (in small quantity), which might cause pollution of ambient environment if not treated properly.</p> <p>The project must comply with the existing laws and technical requirements. Occupational Health and Safety measures must be taken into account during the construction and operational phases.</p>	<p>Y</p> <p>Y</p> <p>Y</p>	<p>Development of waste management plan (including procedures of pollution prevention measures).</p> <p>Development of waste management plan (including procedures for waste segregation, packaging and disposal).</p> <p>Rehabilitation activities must be undertaken in compliance with technical norms and Occupational Health and Safety requirements. Workers to be instructed and provided with respective training.</p> <p>It is necessary to implement</p>	<p>Control of compliance with waste management plan. Proper Implementation of the pollution prevention measures.</p> <p>Control of compliance with waste management plan.</p> <p>Control of compliance with technical norms and Occupational Health and Safety requirements.</p>



	<p>Safety measures must be taken into account during the construction and operational phases.</p> <p>Rehabilitation activities will generate accumulation of minimal amount of construction and hazardous waste (in small quantity), which might cause pollution of ambient environment if not treated properly.</p>	Y	<p>Occupational Health and Safety requirements. Workers to be instructed and provided with respective training.</p> <p>Development of waste management plan (including procedures for waste segregation, packaging and disposal).</p>	<p>Safety requirements.</p> <p>Control of compliance with waste management plan.</p>
Installation of new speed control device (FC) on ID fan motor to reduce power consumption and protect CM3 main motor	<p>During electrical system replacement/rehabilitation, works to comply with the existing laws and technical requirements. Occupational Health and Safety measures must be taken into account during the construction and operational phases.</p> <p>Rehabilitation activities will generate accumulation of minimal amount of construction and hazardous waste (in small quantity), which might cause pollution of ambient environment if not treated properly.</p>	Y	<p>Rehabilitation activities must be undertaken in compliance with technical norms and Occupational Health and Safety requirements. Workers to be instructed and provided with respective training.</p> <p>Development of waste management plan (including procedures for waste segregation, packaging and disposal).</p>	<p>Control of compliance with technical norms and Occupational Health and Safety requirements.</p> <p>Control of compliance with waste management plan.</p>
Installation of	During Installation works	Y	Rehabilitation	Control of

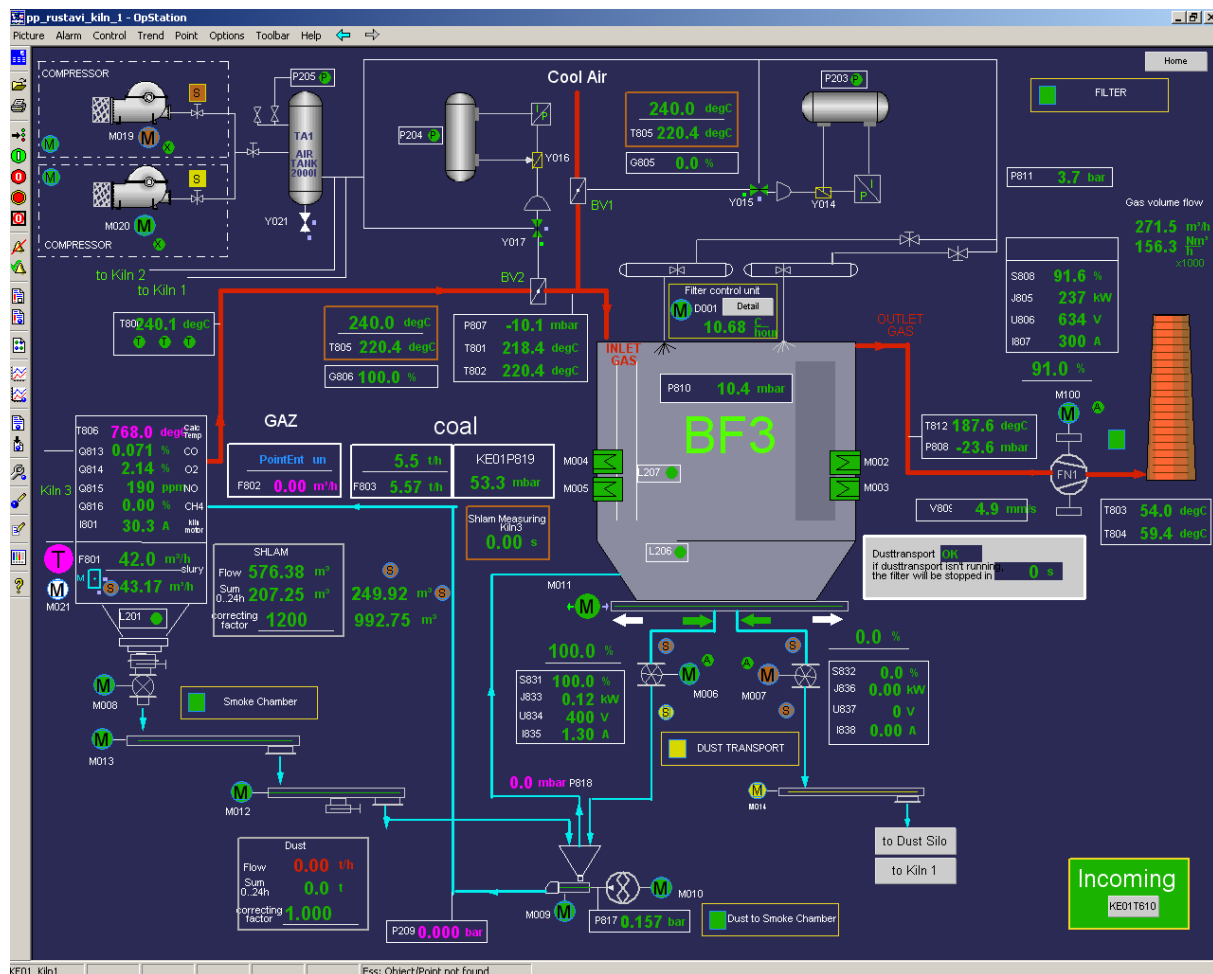
new weight feeders from auger process and its electrical components connection to the process control system	and electrical system replacement/rehabilitation, activities to comply with the existing laws and technical requirements. Occupational Health and Safety measures must be taken into account during the construction and operational phases.		activities must be undertaken in compliance with technical norms and Occupational Health and Safety requirements. Workers to be instructed and provided with respective training.	compliance with technical norms and Occupational Health and Safety requirements.
	Rehabilitation activities will generate accumulation of minimal amount of construction and hazardous waste (in small quantity), which might cause pollution of ambient environment if not treated properly.	Y	Development of waste management plan (including procedures for waste segregation, packaging and disposal).	Control of compliance with waste management plan.
	Rehabilitation activities might cause increase in dust and air pollution at the respective premises of CM3 department for a limited time period during installation of new equipment.	Y	It is necessary to implement dust and air emissions control measures during rehabilitation activities. Overall, air quality control and monitoring to be continued as per established procedures.	Control of implementation of dust and air emissions procedures.
Installation of new power and control cables and cable trays	During electrical system replacement/rehabilitation, works must comply with the existing laws and technical requirements. Occupational Health and Safety measures must be	Y	Rehabilitation activities must be undertaken in compliance with technical norms and Occupational	Control of compliance with technical norms and Occupational Health and Safety

	<p>taken into account during the construction and operational phases.</p> <p>Rehabilitation activities will generate accumulation of minimal amount of construction and hazardous waste (in small quantity), which might cause pollution of ambient environment if not treated properly.</p>	Y	<p>Health and Safety requirements. Workers to be instructed and provided with respective training.</p> <p>Development of waste management plan (including procedures for waste segregation, packaging and disposal).</p>	<p>requirements.</p> <p>Control of compliance with waste management plan.</p>
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## 2. Activity-specific monitoring plan

Monitoring Indicators	Monitoring and Reporting Frequency	Responsible Parties	Records Generated
<i>Specify indicators to (1) determine if mitigation is in place and (2) successful (for example, visual inspections for seepage around pit latrine; sedimentation at stream crossings, etc.)</i>	<i>For example: "Monitor weekly, and report in quarterly reports. If XXX occurs, immediately inform USAID COR/AOR."</i>	<i>Separate parties responsible for mitigation from those responsible for reporting, whenever appropriate,</i>	<i>If appropriate, describe types of records generated by the mitigation, monitoring, and reporting process.</i>
Checking of proper technical conditions of the machinery and equipment.	Throughout construction phase.	Heidelberg Cement Georgia technical management/ WI Environmental Specialist/WI Engineer	Progress reports. Final Report.
Construction waste collection and proper disposal process control.	Throughout planning and design and construction phases.	Heidelberg Cement Georgia technical management/ WI Environmental Specialist/WI Engineer	Progress reports. Waste Management Plan. Final Report.
Control of compliance with technical norms and requirements and Occupational Health and Safety measures.	Throughout planning and design and construction phases.	Heidelberg Cement Georgia technical management/ WI Environmental Specialist/WI Engineer	Progress reports. Final Report.

Annex 1. A screenshot of the main processing indicators of “Heidelberg -Georgia Rustavi Cement Plant” taken from central control desk at a certain time period.



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